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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/480,390	01/11/2000	Michael P. Wagner	1956/126	4259

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125 SUMMER STREET
BOSTON, MA 02110-1618

EXAMINER

TO, BAOQUOC N

ART UNIT	PAPER NUMBER
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2172

DATE MAILED: 02/24/2004

17

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/480,390

Applicant(s)

WAGNER, MICHAEL P.

Examiner

Baoquoc N To

Art Unit

2172

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/04/03.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 41-74 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 45 and 69 is/are allowed.
- 6) ☐ Claim(s) 1-44, 46-68 and 70-74 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 41-74 are pending in this application.

Response to Arguments

2. Applicant's arguments filed 12/01/03 have been fully considered but they are not persuasive.

The applicant argues "it would not be obvious from Tomoda to create a ghost lock for identifying the owner of a resource upon receiving an inquiry regarding the resource, as in the present invention as claimed."

The examiner respectfully disagrees with the above argument because Tomoda suggests "each of the management process inquires the lock manager to access resource in its buffer ... each of the management process executes the read-write process for request block on its buffer if the transaction indicate (status=rw)" (col. 5, lines 40-67 and col. 6, lines 1-2). This indicates that the lock manger is the first process and each management process is the second process that acquires the lock. The manager has the exclusive right over the resource which corresponding to the creating the ghost lock. Until, the lock or exclusive right (owner) being given to one of the management process to access the resource by the lock manager.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 41-74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomoda (US. Patent No. 5,706,511).

Regarding on claims 41, 51, 58 and 65, Tomoda teaches a method for providing mutual exclusion for a resource in a computer system having a plurality of processes, the method comprising:

maintaining a resource lock (lock) (col. 4, lines 26-27) for each process requiring access to the resource, the resource locking having a plurality of fields requiring initialization in order for the process to access the resource, the plurality of fields including in owner indicator field for indicating an owner process for the resource (col. 4, lines 26-27);

receiving, by a first process (lock manager), an inquiry from a second process (management process) inquiring whether the first process owns the resource (col. 5, lines 40-42);

determining, by the first process, an owner process for the resource other than the first process (the lock manager allow the management processes lock and copies the file which also means the management is also the owner of the lock) (col. 5, lines 56-64); and

Tomoda does not explicitly teach creating a ghost lock for first process, wherein the ghost lock is a partial instantiation of a resource lock having at least the owner indicator field initialized to indicate the owner process determined for the resource but

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having less than all fields initialized, and wherein the ghost lock allows the first process to identify the owner process for the resource without first sending an inquiry message to determine the owner process. However, Tomoda teaches, "each management process inquires of the lock manager 23 as to whether or not the to-be-processed block is held on its own buffer before processing the transaction" (col. 5, lines 40-43). This teaches the lock is already created for the resource because the lock manager has the authority over the resource. In addition, Tomoda suggests "each management process executes the read-write process for to-be-processed blocks on its own buffer if the transaction indicates "status =rw" (col. 5, lines 67 and col. 6, lines 1-2). The resource being access by the owner wherein the owner is the one of the process. Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to include lock manager having the owner lock as taught in Tomoda in order to provide the locking mechanism to ensure there is an existed owner of the lock for a process.

Regarding on claims 42, 52, 59 and 66, Tomoda teaches determining the owner process by the first process step:

determining that the first process is not the owner process (col. 5, lines 40-47);
and

determining the thereby that the second process is the owner process (col. 5, lines 40-47).

Regarding on claims 43, 53, 60 and 67, Tomoda teaches sending, by the first process, a response to the second process indicating that the first process is not the owner process for the resource (col. 5, lines 40-47); and

creating an owner lock for the second process, wherein the owner lock is a resource locking saving all fields initialized and the owner indicator field indicating that the second process is the owner process for the resource (col. 5, lines 59-63).

Regarding on claims 44 and 68, Tomoda teaches determining, by the second process, the owner process for the resource, the owner processing being one of the second process if the second process and a third process (col. 5, lines 40-47); creating a reference lock for the second process if the third process is the owner process for the resource, wherein the owner lock is a resource locking having all fields initialized and the owner indicator field indicating that the second process is the owner process for the resource; and creating a reference lock for the second process if the third process is the owner process for the resource, wherein the reference lock is a resource lock having all fields initialized and the owner indicator field indicating that the third process is the owner process for the resource (col. 6, lines 59-63).

Regarding on claims 46 and 70, Tomoda teaches sending, by the second process (management processes), an owner notification message (inquiry) to the first process (lock manager) indicating the owner process for the resource, the owner process being one of the second process and the third process (col. 5, lines 40-47).

Regarding on claims 47, 54, 61 and 71, Tomoda teaches determining the owner process by the first process comprises:

determining the owner process for the resource based upon the owner notification message (inquiry to the manager lock) (col. 5, lines 21-26 and col. 5, lines 40-47).

Regarding on claims 48, 55, 62 and 72, Tomoda teaches determining that the first process requires access to the resource;

identifying, by the first process, the owner process for the resource using the ghost lock (lock) (col. 5, lines 40-47); and

sending, by the first process, a request message to the owner process requesting access to the resource without first sending an inquiry message to determine the owner process (col. 5, lines 40-47).

Regarding on claims 49, 56, 63 and 73, Tomoda teaches identifying the owner process for the resource using the ghost lock comprises:

finding the ghost lock among plurality of resource locks based upon a resource identifier (col. 5, lines 40-47); and obtaining the owner process from the owner indicator field of the ghost lock (col. 5, lines 40-47).

Regarding on claims 50, 57, 64 and 74, Tomoda teaches converting the ghost lock to a reference lock by initializing all uninitialized fields of lock (col. 5, lines 59-64).

Allowable Subject Matter

4. Claims 45 and 69 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: none of known prior art alone or in combination neither teach or suggest "sending, by the second process, an inquiry to the third process inquiring whether the third process owns the resource; receiving, by the second process, a response from the third process indicating whether the third process is the owner process for the resource; and determining, by the second process, that the second process is the owner process for the resource, if the response indicates that the third process is not the owner process for the resource."

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Baoquoc N. To whose telephone number is (703) 305-1949 or via e-mail BaoquocN.To@uspto.gov. The examiner can normally be reached on Monday-Friday: 8:00 AM – 4:30 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached at (703) 305-9790.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231.

The fax numbers for the organization where this application or proceeding is assigned are as follow:

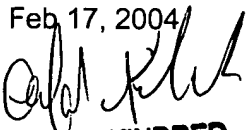
(703) 872-9306 [Official Communication]

Hand-delivered responses should be brought to:

Crystal Park II
2121 Crystal Drive
Arlington, VA 22202
Fourth Floor (Receptionist).

Baoquoc N. To

Feb 17, 2004


ALFORD KINDRED
PRIMARY EXAMINER